



HALLIWELL

DAVID M. ROEBUCK, P.E., CCM, PMP
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SPECIALTIES

- Structural failure investigations
- Construction defect investigations
- Storm damage assessments
- Cause and origin evaluations
- Fire damage assessments
- Roof condition and damage assessments
- Structural design
- Foundation failure investigations
- Tank and basin failures
- Non-destructive testing and analysis
- Construction and project management
- Water and wastewater treatment facility design and construction management
- Building envelope failure investigations

BIOGRAPHY

David has over 40 years of experience in civil and structural engineering including design and construction management of infrastructure facilities of all types. He has led numerous forensic and cause and origin investigations as well as multiple construction defect and civil/structural failure investigations. David has extensive experience working internationally for governmental organizations and private sector clients including assignments in Africa, Central Asia, Europe, South America and the Caribbean. He has served as lead inspector and engineer-of-record for multiple catastrophic (CAT) event assignments.

QUALIFICATIONS

Master of Science in Civil Engineering, University of Alabama at Birmingham (UAB)

Bachelor of Civil Engineering (with Honor), Auburn University

INDUSTRY CERTIFICATIONS, LICENSES AND MEMBERSHIPS

- Licensed Professional Engineer: AL, AR, AZ, CO, FL, GA, IL, IN, KS, KY, LA, ME, MI, MO, MS, NM, NV, NY, OK, SC, TN, TX, WA, WI, UT, Puerto Rico
- Certified Construction Manager (CMCI)
- Project Management Professional (PMI)
- FAA Licensed Instrument Rated Private Pilot
- FAA Licensed Commercial Drone Pilot
- National Academy of Building Inspection Engineers (NABIE) , Elected to Fellow of the Academy
- NABIE, Past National President

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- ASCE, Georgia Section President, 1993
- ASCE, Northeast Georgia Branch, Founder and First President, 1986

PROFESSIONAL EXPERIENCE

- Halliwell, Regional Director, Civil/Structural Engineering Services
- EFI Global Inc, Managing Principal Engineer – Large/Complex Loss
- J.S. Held, LLC, Senior Engineer II
- Krebs Engineering, Inc, Senior Associate/Principal Structural Engineer
- Amec Foster Wheeler (Wood PLC), Senior Engineer/Project Manager
- United States Agency for International Development (USAID), Senior Engineer/Project Manager
- Special Inspector General for Afghanistan Reconstruction (SIGAR), Senior Engineer
- ARMCG, Principal/Lead Structural Engineer
- Chasman & Associates, Senior Engineer
- Paul B. Krebs & Associates, Staff Engineer

REPRESENTATIVE ASSIGNMENTS

Talladega Super Speedway Tunnel Design and Construction

Designer and engineer-of-record for the structural design of tunnel under Turn 3 at Talladega Super Speedway. Tunnel is 204 feet long by 28 feet wide and accommodates two-way traffic with tractor-trailer sized rigs from the outside of the racetrack to the infield. Designed and detailed the tunnel structure including approach walls, roadway slab and adjacent crash walls and worked closely with the contractor to address multiple fabrication and construction issues related to the accelerated schedule. Construction began after the October 2018 race and was completed prior to the April 2019 race.

Koch Foods Poultry Facility Structural Failure

Investigated the collapse of the second-floor structure at the facility in Gadsden Alabama. Evaluated the existing structural system and determined the cause of the collapse to be a combination of deficient construction and overloading. Provided “hands-on” technical guidance and site monitoring during the selective demolition and shoring of the remaining structure as required to remove raw chicken product from below the collapse debris prior to rebuilding efforts.

Grenada Water Transmission Main Design/Build Project

Project manager and designer of water transmission main project on the island nation of Grenada that extended from the capital city of St George’s along the coast to serve other portions of the island. Obtained financing for the project through the Export-Import Bank of the US for the Government of Grenada. Designed the project and managed the construction using company forces.

Structural Damage Assessments for Hurricane CAT Events

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Inspected numerous facilities throughout Florida, Louisiana, Georgia, Mississippi, South Carolina and Alabama that sustained damage during various hurricanes and served as the engineer-of-record for the associated engineering reports.

Nashville Tennessee Tornado CAT Event Structural Damage Assessments

Performed multiple inspections of tornado damage to commercial and residential structures in the Nashville Tennessee area following the March 2020 storms. Led a team of engineers providing onsite inspections and wrote structural damage assessment reports documenting the type and severity of the damage and provided recommendations for repair or replacement.

EnerSys Battery Manufacturing Facility Fire Structural Damage Assessment

Inspected industrial facility located in Richmond, Kentucky following a fire that severely damaged the battery charging area. Inspection was conducted in conditions requiring full PPE due to the presence of hazardous combustion by-products and battery components. Performed non-destructive testing of major structural components to determine the extent of fire damage and developed recommendations for areas of the structure that required demolition and replacement.

Aegis Ashore Missile Defense Facility – Slupsk, Poland

Served as the Assistant Chief Engineer for the on-site engineering design and construction management team for the design/build project for the US Department of the Navy Missile Defense Agency. Provided day-to-day engineering and construction management support for the construction of complex radar tracking facilities and missile launch modules at a World War II-era air base. Worked closely with the US Army Corps of Engineers and construction personnel to interpret design drawings and develop field modification designs for various components of the multi-structure facility.

US Consulate Blast Damage Assessment Herat, Afghanistan

Led a team of engineers to evaluate the structural condition of the seven-story US Consulate in Herat, Afghanistan, which was a target of a Taliban truck bomb attack that severely damaged the facility. Evaluated the existing structure and prepared a report concluding that the cast-in-place reinforced concrete frame structure had not suffered irreparable damage even though significant portions of the building façade and envelope were destroyed. Presented conclusions to the US Ambassador and the State Department's Bureau of Overseas Building Operations that were then used as the rationale for the decision to repair and not demolish the Consulate.

Grenada Boys Secondary School Structural Assessment and Replacement

Inspected the heavily corroded structural steel framework caused by poorly protected steel in the saltwater environment and recommended immediate evacuation. Developed a plan for financing, designing and rebuilding the school at the request of the Government. Obtained and managed US Export-Import Bank financing and designed the new school using precast concrete sections manufactured in the US for export. Infill reinforced masonry was installed around those units for a corrosion resistant final product. The school was later used as a storm shelter during Hurricane Ivan and suffered no significant damage despite the storm's sustained 135 mph winds.

Benue State Nigeria Cement Manufacturing Facility Engineering Feasibility Study

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Principal engineer and project manager for large infrastructure feasibility study for the State Government of Benue in Nigeria. Responsible for planning the infrastructure systems to support the proposed manufacturing plant and developed the overall conceptual design. Worked closely with the indigenous population at the proposed site and managed the environmental impact assessment component in accordance with World Bank standards.

Inspections of Numerous Facilities in Afghanistan

Served as Senior Engineer for the Special Inspector General for Afghanistan Reconstruction (SIGAR) inspecting and reporting on numerous facilities throughout the country including Afghan National Army and Afghan National Police compounds. Projects were in very insecure locations requiring extensive security for the inspection team. Transportation to these sites involved military helicopters, armored vehicles and military escorts. Inspections were conducted in full body armor. Discovered many instances of major construction deficiencies, failures and waste. Inspection reports were used in SIGAR's audit reports to Congress.

Structural Failure Investigations

Performed numerous investigations of failed structures for various clients including building owners, insurance carriers and adjusters, attorneys and property management companies. Investigated large industrial facilities, institutional buildings, office buildings, apartments and single-family residences and developed investigation reports documenting findings, conclusions and recommendations. Provided technical reports for use in legal proceedings and testified as an expert witness in court.

Project Management Office (PMO)

Senior project manager for PMO focusing on infrastructure projects for the United States Agency for International Development (USAID). Provided remote and on-site project leadership to teams of professionals involved in USAID development and capacity building projects in Central Asia and Africa. Roles included oversight of project deliverables, quality assurance, client management, financial control and reporting, and new project proposal development.

I-5 Expansion Project Construction Assignment

Served as technical advisor to investigative adjustment team for reported flood damaged heavy civil construction project in southern California. Provided review of roadway expansion design and construction documentation relating to multi-million-dollar damage claims. Researched storm events associated with atmospheric river meteorologic conditions and evaluated contract requirements for soil erosion control design and maintenance. Prepared comprehensive report of findings for builder's risk carrier.

Automobile Assembly Facility Construction Defect Investigation

Led a team of engineers and building consultants investigating systemic failures of roof deck fasteners at multiple buildings for a new automobile assembly plant. Worked closely with outside consultants, the construction manager, general contractor, subcontractors and the insured's project management team to gather information on the failure and evaluate possible causes. Assisted in quantifying the number and extent of failures and provided recommendations on corrective measures.